

In the Claims

1-17. (Canceled) .

18. (Previously presented) A method of delivering a bioactive substance within a vessel, the method comprising:

    providing apparatus comprising an anchor expandable from a delivery configuration to a deployed configuration, and a material adapted to elute a bioactive substance;

    expanding the anchor to the deployed configuration within the vessel, the anchor engaging an interior wall of the vessel; and

    eluting the bioactive substance from the material into blood flowing through the anchor.

19. (Previously presented) The method of claim 18 further comprising, prior to expanding the anchor:

    disposing the anchor in the delivery configuration within a distal end of a lumen of a delivery sheath; and

    advancing the distal end of the delivery sheath to a delivery site within the vessel.

20. (Previously presented) The method of claim 18, wherein eluting the bioactive substance comprises eluting a substance chosen from the group consisting of gene therapy vectors, gene therapy sequences, and drugs.

21. (Previously presented) The method of claim 19, further comprising:

    collapsing the anchor back to the delivery configuration within the distal end of the delivery sheath lumen; and

removing the apparatus from the patient's vessel.

22. (Previously presented) The method of claim 19, further comprising, after expanding the anchor, removing the delivery sheath from the patient's vessel.

23. (Previously presented) The method of claim 18, wherein providing apparatus comprising an anchor comprises providing a resiliently expandable cage.

24. (Previously presented) The method of claim 18, wherein providing apparatus comprising a material eluting a bioactive substance comprises providing a material chosen from the group consisting of a spongy material, a floppy elongated member adapted for multiple turns, and a swellable pellet.

25. (Previously presented) The method of claim 22, further comprising:

readvancing the distal end of the delivery sheath to the delivery site within the vessel;

collapsing the anchor back to the delivery configuration within the distal end of the delivery sheath lumen; and

removing the apparatus from the patient's vessel.

26. (New) An intravascular device for delivering a bioactive substance into systemic circulation of an animal, the device comprising:

(a) an anchor immobilizable to an inner wall of an intact blood vessel which, when immobilized in the blood vessel, permits blood in the vessel to pass therethrough; and

(b) a reservoir containing the bioactive substance,

which when introduced into the blood vessel is retained by the anchor and releases the bioactive substance into blood passing the reservoir.

27. (New) The device of claim 26, wherein the anchor comprises at least one element biased in a radially outward direction when immobilized in the blood vessel.

28. (New) The device of claim 26, wherein the anchor is a stent.

29. (New) The device of claim 26, wherein the anchor comprises a head and a plurality of filaments attached by one end to the head.

30. (New) The device of claim 29, wherein the anchor is an embolism anti-migration filter.

31. (New) The device of claim 26, wherein the anchor comprises a receptacle for receiving the reservoir.

32. (New) The device of claim 26, wherein the reservoir comprises a surface at least partially defining an inner volume for retaining the bioactive substance.

33. (New) The device of claim 26, wherein the reservoir is a pump.

34. (New) The device of claim 33, wherein the pump is an osmotic pump.

35. (New) The device of claim 26, wherein the reservoir is a drug permeable capsule.

36. (New) The device of claim 35, wherein the capsule has disposed therein particles containing a pre-selected drug for release therefrom.

37. (New) The device of claim 32, wherein the surface is semi-permeable.

38. (New) The device of claim 37, wherein the surface comprises pores of a size sufficient to permit diffusion of the bioactive substance therethrough.

39. (New) The device of claim 26, wherein the bioactive substance is a cardiovascular drug or a coagulation factor.

40. (New) The device of claim 26, wherein the reservoir comprises a plurality of pre-selected drugs which are released into blood passing the reservoir.

41. (New) The device of claim 26, wherein the reservoir releases the bioactive substance over a pre-selected period of time.

42. (New) A method of introducing into a blood vessel a delivery device for delivering a bioactive substance directly into systemic circulation of an animal, the method comprising the steps of:

(a) immobilizing an anchor to an inner wall of an intact blood vessel, which when immobilized permits blood in

the vessel to pass therethrough;

(b) introducing into the blood vessel a reservoir containing the bioactive substance, such that when introduced into the blood vessel the reservoir releases the bioactive substance into blood passing the reservoir; and

(c) permitting the reservoir to be retained in the blood vessel by the anchor.

43. (New) The method of claim 42, comprising the additional step of, prior to step (a), introducing the anchor into the blood vessel via a catheter.

44. (New) The method of claim 42, wherein the reservoir is introduced into the blood vessel by a catheter.

45. (New) The method of claim 42, comprising the additional step of locking the reservoir to the anchor.

46. (New) The method of claim 45, wherein the reservoir is engaged with the anchor after the anchor is immobilized in the blood vessel.

47. (New) An anchor for implantation into an intact blood vessel of an animal, the anchor comprising:

a first element adapted for immobilization to an inner wall of the blood vessel, wherein the first element comprises at least one member biased in a radially outward direction when immobilized in the blood vessel; and attached thereto

a second element forming a receptacle that defines a reservoir for a bioactive substance.

48. (New) The anchor of claim 47, wherein the first element is a stent.

49. (New) The anchor of claim 47, wherein the first element comprises at least one outwardly extending strut.

50. (New) The anchor of claim 47, further comprising a third element interposed between the first and second elements for connecting the first and second elements.

51. (New) The anchor of claim 50, wherein the third element comprises a filament.

52. (New) A reservoir for implantation into an intact blood vessel of an animal, the reservoir comprising:

a first element for engaging a receptacle of an anchor immobilizable to an inner wall of the intact blood vessel; and attached thereto

a second element having a wall at least partially defining an inner volume for retaining a bioactive substance and defining at least one pore dimensioned to permit the bioactive substance retained therein to pass therethrough.

53. (New) The reservoir of claim 52, wherein the second element is a pump.

54. (New) The reservoir of claim 53, wherein the pump is an osmotic pump.

55. (New) The reservoir of claim 52, wherein the second element is a drug permeable capsule.

56. (New) The reservoir of claim 55, wherein the capsule has disposed therein particles containing a pre-selected drug for release therefrom.

57. (New) The reservoir of claim 52, wherein the wall of the second element is a semi-permeable membrane.

58. (New) The reservoir of claim 57, wherein the semi-permeable membrane defines pores of a size sufficient to permit diffusion of the bioactive substance therethrough.

59. (New) The reservoir of claim 52, wherein the bioactive substance is a cardiovascular drug or a coagulation factor.

60. (New) The reservoir of claim 52, further comprising a plurality of pre-selected drugs for release therefrom.